

NATIONAL INFORMATION EXCHANGE MODEL (NIEM)

Introduction

Information is the lifeblood of effective public safety and homeland security. In making countless decisions every day, officials must have immediate access to timely, accurate, and complete information. Regardless of whether the situation involves a police officer conducting a routine traffic stop, a security officer conducting passenger screening at an airport, or a customs official screening cargo arriving at an international port, effective decision making requires information that often must be shared across a broad landscape of systems, agencies, and jurisdictions. The challenge is clear—how do we build bridges that span the wide array of computer systems operating in various agencies to share information for improving public safety and homeland security?

The National Information Exchange Model—**NIEM**—is designed to enable government and industry to address this problem. NIEM defines data-exchange standards for information that is commonly shared across the broad justice, public safety, emergency and disaster management, intelligence, and homeland security enterprises. The standards derive from actual exchanges that support the day-to-day operations of officials at all levels of government, as well as the private sector and the general public. In addition to developing exchange standards, NIEM also provides:

- A structured methodology and technical tools for building standards.
- Training, technical assistance, and help-desk support for users and developers.
- An effective governance structure that encourages the active involvement and input of users and practitioners from all levels of government and industry.

The Value of Standards-Based Information Sharing

Ensuring public safety and homeland security is the most fundamental objective of most information sharing initiatives. The value of sharing accurate, timely, and complete information across the whole of the enterprise cannot be overstated. Getting the right information to the right people all of the time means that officials will be properly equipped to make informed decisions in planning for, preventing, or responding to terrorist attacks, natural disasters, large-scale and organized criminal incidents, and day-to-day operations. Timely access to quality information enables better decision making, which can easily translate into saving lives.



Standards-based information sharing can also mean quicker access to and better understanding of data that crosses system, agency, and jurisdiction borders. NIEM is business-driven and practitioner-led. First responders, analysts, agency representatives—those who must share information in mission-critical jobs on a

daily basis—are the people who are building the NIEM standards. And this means they will not have to reenter the same data multiple times, delay critical decisions for lack of data, or take action based on inaccurate or incomplete information.

Further, NIEM information sharing standards will accelerate systems development, mitigate risk by enabling developers to build to common standards and reuse common components, and promote agility in responding to the evolving requirements to share data in new and innovative ways.

Value of NIEM

NIEM Can Improve the Effectiveness of Government

The ability of government personnel to effectively serve customers and the general public, and to deliver positive outcomes, hinges on the availability of appropriate and accurate information. Access to such information ensures that decisions are made and assistance provided as quickly as possible. Consider the following examples that describe how NIEM could help to improve the quality of government services:

Preventing Terrorist Attack

As documented by The 9/11 Commission Report, our inability to share real-time intelligence and criminal justice data contributed to the terrorists' success. Even today, fusion center personnel must often overcome this deficit by sharing information via phone calls and personal contact. NIEM will provide value by enabling criminal justice and intelligence systems to share data in real time. With the knowledge harvested from broad information sharing, fusion center personnel and others within the intelligence and law enforcement community will be better equipped to identify potential threats

and prevent future terrorist attacks. Recognizing this, fusion centers in Michigan, New York, and Virginia have endorsed NIEM as their standard for data exchange.

Responding to Disaster

In disaster situations, first responders and emergency personnel must be able to communicate and remotely share information. During last year's battle with wildfires in the western United States, residents of a threatened community received conflicting directives from law enforcement and fire department personnel. NIEM data-exchange standards can help to link law enforcement agencies, fire departments, and other critical information sources required by first responders, such as medical, environmental, and transportation personnel. In this way, NIEM serves as a vital tool to help improve the speed and effectiveness of our nation's disaster response.

Fighting Crime and Administering Justice

Decision making throughout the justice enterprise depends on immediate access to timely, accurate, and complete information. When a law enforcement officer in the field stops a suspect, a judicial officer makes a bail or sentencing decision, or a correctional official determines whether to hold or release an individual, each decision relies on information collected and shared between multiple agencies and jurisdictions. Incomplete information regarding the subjects' identities, their legal status and criminal records, and whether they are wanted or a danger to the public or themselves puts the public at risk. And the results can be tragic. NIEM provides the data-exchange standards and support mechanisms to facilitate broad information sharing for effective decision making.



NIEM Can Improve the Efficiency of Government

Cutting the Cost to Share Information

NIEM embraces collaboration with preexisting standards and can help organizations avert many of the risks inherent in developing and adopting new standards. Since NIEM's components and exchanges are reusable, the time and cost necessary to deploy new information exchanges are significantly reduced. Pennsylvania has implemented a standardized, repeatable process for all integrated technology solutions, reducing the message exchange development process from nine months to six weeks. This action may have resulted in millions of dollars in taxpayer savings. The Missouri State Court Administrator reports that development time has been cut by 50 percent since the adoption of NIEM-related standards.

Increasing the Accuracy and Speed of Information Sharing

Government information is stored in thousands of disparate applications and databases. The process of accessing, aggregating, and analyzing relevant data to respond to an emergency, make an immigration decision, issue a state identification card, or solve a crime is time-consuming, costly, and too often fraught with errors. Consider the officer assigned to the case of two slain New York City detectives, who contacted Pennsylvania authorities to request information on two suspects. Using NIEM-related exchanges, officials were able in just a few hours, rather than over days



or weeks, to gather and forward information on the suspects, including birthdates, social security numbers, fingerprints, photos, and vehicle information.

Reducing Administrative Burden

Agencies at all levels of government are challenged with responding to increasing demands for their services. Yet many of these government entities spend valuable time manually rekeying data into their systems. For example, Orange County, Florida, has reported that eliminating redundant entry of arrest information saves an estimated \$5 million to \$7 million per year. NIEM provides a means to eliminate data entry redundancy—freeing resources to perform more valuable services for the public.



The Promise of NIEM

Significant progress is being made in building and implementing enterprisewide information sharing standards through the NIEM program. NIEM version 1.0 was released in October 2006; an expanded version 2.0 was released in June 2007, which harmonizes key components across an expanded range of domains—justice, public safety, emergency management, and homeland security. Pilot programs are well under way for building and implementing NIEM-conformant exchanges in a variety of operational and mission-critical venues. And NIEM is gaining significant traction by expanding adoption and development among agencies at all levels of government and with private industry and solution providers.

NIEM is a business-driven, practitioner-led program to create common standards, vocabulary, reusable data components, and tools that can reduce the design and development time needed to build and implement robust, agile information sharing capabilities. For government leaders, NIEM provides a foundation for building information sharing for more effective operations and greater efficiency and return on investment. For practitioners, NIEM provides the operational tools and proven methodologies to build and implement standards to enable real-time information sharing.



www.NIEM.gov.

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The NIEM program management team invites all interested organizations to join in this initiative, become part of the NIEM community, and help us to realize the unfulfilled benefits of NIEM. We recognize that the value of our information sharing efforts can be achieved only through the active participation of the many organizations involved in protecting and serving our nation's communities.

**To join the NIEM community or to learn more
about NIEM, please send an
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